Infection Prevention in Ophthalmic Nursing
Overview

- Infection Control Plan / Program - components
- TASS – Sterile Processing
- Panel discussion and exchange of viewpoints on infection control
Infection Control Program / Plan / Policy

Goals:

1. Provide guidance and assist in preventing the transmission of infection disease among patient and staff.

2. Promote patient safety by reducing the risk of acquiring and transmitting infection.
Suggested Components:

1. Identify team members / Coordinator
2. Infection Prevention Components
   - Hand hygiene
   - Personal Protective Equipment (PPE)
   - Medication / Safe Injection Practices
   - Environmental Cleaning
   - Sterile processing
   - COVID
   - Key components / set goals. Ex: Maintain 90% handwashing compliance
4. Training / Education
5. Monitoring
6. Reporting
Hand Hygiene

Availability of soap & water and / or alcohol-based hand rubs in all patient care areas

When is hand hygiene performed?

1. Before and after direct patient contact
2. After removing your gloves
3. After contact with bloodborne pathogens (even if gloves are worn)
4. When hands are visibly dirty
5. After using the restroom
6. After cleaning
Handwashing Audits

Observation
- Assign
- OT, Pre-op, Recovery, Anesthesia, Physicians

How often?
- Policy

Tracking / Trending
- Post % compliance
- Reporting (Board of Directors, Management, Patient Care Committees)
Infection Control Training / Education

How Often?

- Upon hire
- Annual Continuing Education
- When needed compliance is low
- When new protocols are put in place (i.e., new disinfectants, new type of equipment)
Selecting the Training Method

- Choose a simple way to deliver the training (e.g., power point presentation, videos)

- Ensure the content is up to date (or can be easily updated)

- Ideally, can be accessed by the individual at a convenient time

- Can be kept at the healthcare setting for reference
Personal Protective Equipment

Specialized clothing or equipment worn by an employee for protection against infectious disease.

- Gloves
- Gowns
- Shoe and Head Covers
- Masks
- Face and Eye Protection
Three **Key Factors** when determining appropriate PPE:

1. Anticipated exposure
2. Durability
3. Fit

PPE effectiveness depends on:

- Staff knowing the right PPE for the job
- PPE being available and accessible in clinical areas
## Grid of Staff Risk in Clinical Areas with the Recommended PPE

| UNIT/AREA                | BIOHAZARDOUS WASTE/SHARP REMOVAL | BLOOD / BODY FLUID | CHANGING SHARPS CONTAINERS | CIRCULATING DUTIES | CLEANING/DECONTAMINATION | CLEANING/DECONTAMINATION OF PATIENT CARE EQUIPMENT | DECON OF BLOOD/BODY FLUID SPILLS | HANDLING EMESIS BASINS | HANDLING SPECIMENS | IV START/IV ADMIN | MEDICATION ADMIN | MOPPING FLOORS BETWEEN PROCEDURES |
|--------------------------|----------------------------------|--------------------|-----------------------------|-------------------|--------------------------|---------------------------------------------------|---------------------------------|-----------------------|---------------------|---------------------|---------------------|----------------------|---------------------------------|
| Administration           |                                  |                    |                             |                   |                          |                                                   |                                 |                       |                     |                     |                     |                     |                                |
| Business Office Staff    |                                  |                    |                             |                   |                          |                                                   |                                 |                       |                     |                     |                     |                     |                                |
| Materials Management     |                                  |                    |                             |                   |                          |                                                   |                                 |                       |                     |                     |                     |                     |                                |
| Nurse Managers           |                                  |                    |                             |                   |                          |                                                   |                                 |                       |                     |                     |                     |                     |                                |
| Registered Nurse-Clinical|                                  |                    |                             |                   |                          |                                                   |                                 |                       |                     |                     |                     |                     |                                |
| Registered Nurse-OR      |                                  |                    |                             |                   |                          |                                                   |                                 |                       |                     |                     |                     |                     |                                |
| Scrub Technicians        |                                  |                    |                             |                   |                          |                                                   |                                 |                       |                     |                     |                     |                     |                                |
| Sterilization Technician |                                  |                    |                             |                   |                          |                                                   |                                 |                       |                     |                     |                     |                     |                                |
| PROTECTIVE PERSONAL EQUIPMENT AVAILABLE | GO/GUE | GO/GUE/S | GUE | GUE/S | GUE/S | GUE | GUE | GUE | GUE | GUE | GUE | GUE | GUE/S |
| MANDATORY PPE            |                                  |                    |                             |                   |                          |                                                   |                                 |                       |                     |                     |                     |                     |                                |

### Risk Level

- **LOW**
- **MEDIUM**
- **HIGH**

### Protective Personal Equipment Available

- **G** GLOVES
- **E** EYE PROTECTION
- **M** MASKS
- **S** SHOE COVERS
Medication Safety / Injection Practices

❑ Instructions for Use (IFUs)

❑ Single-dose vials vs. multi-dose vials
  ❑ Single-dose vials must be discarded after use on one patient
  ❑ Multi-dose vials may be used on multiple patients if they are labeled and stored according to the manufacturer’s IFUs
    ❑ Beyond-use dating is put on the label when the vial is opened
    ❑ Should not be stored in immediate treatment areas (e.g., OR, procedure room, at the patient bedside, exam room)
  ❑ If a multi-dose vial is taken into an immediate treatment area, it should be considered a single-dose vial and discarded after use

SAME DRUG, DIFFERENT TYPE VIALS
Environmental Cleaning

Standard Cleaning

Beginning of the day

- Do a visible inspection
- Clean all horizontal surfaces with a germicidal wipe*

Cleaning the OT between cases

- All horizontal surfaces get cleaned
- Back table
- May stands
- OR chair
- Anesthesia equipment (B/P cuff, pulse oximeter)

* Dry time
Environmental Cleaning

Terminal Cleaning

- Horizontal surfaces
- Microscopes
- Sinks / countertops

LOOK DOWN at wheels, casters, base to the mayo stand, foot pedals
Receiving / Storage

Preventing insects/debris in the Operating Theatre (OT)
- No corrugated boxes in the OT
- Reservoir for dust, retained liquids, dirt, vermin, insects, and bacteria during its journey

Sterile packs
- Checking all sterile packs to be used for evidence of damage (holes), or moisture penetration

Store items according to Manufacturer’s Instructions for Use (IFU)
- Store sterile equipment and supplies in clean, dry conditions, off the floor / windowsills, away from potential damage
Not re-using single use items

- Do not re-use, Single use, Use only once

Ensure all fluids and supplies to be used are within date.

- Check expirations dates
- Document / monthly log
Decontamination of Surgical Instruments

1. Begins immediately at the point of use
2. Transported in a closed, puncture proof container, marked biohazard
3. Decontaminating **ALL** surgical instruments from a case (not just the instruments used)
4. Critical water (treated – sterile, distilled, filtered)
5. Multipart instruments are disassembled
6. Jaws / hinged instruments are opened
7. Flush lumens
8. Visually inspect instruments
Decontamination of Surgical Instruments

- Multipart instruments are disassembled
- Jaws / hinged instruments are opened
- Flush lumens
- Transported in a closed, puncture proof container, marked biohazard
Visually Inspect All Instruments Before Sterilization

RUST

DEBRIS
Sterile Processing

1. Correct Settings for Sterilization (IFU) - temperature, duration
2. Immediate Use Sterilization
3. Instructions for Use (IFU) for Instruments - compatibility
4. Validation of Sterilization
   - Chemical Indicators
     - In every container (Type 5 or 6)
   - Biological Indicators
     - Weekly (at a minimum) or daily spore testing any day that instruments are processed
Procedures for processing ophthalmic instruments differ from those for general surgical instruments.

Cleaning intraocular instruments separately from general surgical instruments can help prevent cross contamination with bioburden from heavily soiled nonophthalmic surgical instruments.

Most instances of toxic anterior segment syndrome appear to be related to instrument processing.

AORN Guidelines for Ophthalmic Instruments

- Immediately after use during the procedure, wipe ophthalmic instruments with sterile water and a sterile lint-free sponge or cloth and flush or immerse them in sterile water according to the manufacturers’ written IFU
- Clean intraocular instruments in a designated cleaning area, separately from general surgical instruments
- Use single-use disposable cannulas whenever possible
- At the close of the procedure, use critical water to flush the phacoemulsification-irrigation and aspiration ports, irrigation/aspiration hand pieces, and accessory reusable tips and tubing according to the manufacturer’s IFU before disconnecting the hand piece from the unit
- Select and use cleaning products for intraocular instruments in accordance with the instrument manufacturer’s written IFU
AORN Guidelines for Ophthalmic Instruments Continued:

- After cleaning, rinse intraocular instruments with a copious amount of utility or critical water.
- Perform a final rinse, including lumens, with critical or sterile water.
- Dry lumens with pressure-regulated instrument air.
- If an ultrasonic cleaner is used for intraocular ophthalmic instruments, empty, clean, disinfect, rinse, and dry the ultrasonic cleaner after use for non-intraocular ophthalmic instruments and at least daily or, preferably, after each use.
- If not contraindicated by the ultrasonic cleaner manufacturer’s written IFU, wipe the chamber with 70% to 90% alcohol and dry it with a lint-free cloth.
- After decontamination, inspect instruments that have been in contact with ophthalmic viscoelastic material for residue under magnification, preferably lighted magnification.

TASS

Toxic anterior segment syndrome: Acute, severe, intraocular inflammation of the anterior segment after intraocular surgery.

TASS presents within 12-24 hours after surgery.
Infectious endophthalmitis develops 2-7 days after surgery.
Potential causes of TASS:

- Contaminated balanced salt solutions
- Intraocular irrigating solutions with abnormal PH, osmolarity, or ionic composition
- Viscoelastic agents
- Intraocular medications (antibiotics in the irrigation solutions or intracameral antibiotics)
- Topical ointments
- Preservatives
- Metallic precipitates
- Inadequate sterilization of surgical instruments and tubing

- *Inadequate flushing of instruments between cases resulting in build-up of viscoelastic*
Infection Control Measures Related to Emerging Infectious Diseases

During the Covid-19 Public Health Emergency, healthcare organizations realized the importance of:

- Training staff regarding symptoms and mitigation
- Monitoring inventory of supplies (e.g., PPE, medications, supplies) to safely provide care
- Infection surveillance of staff and patients
- Reinforcing the culture to “stay home when ill”
- Enhancing disinfection of the environment
- Monitoring regional departments of health for updates concerning increased community transmission
- Flexing protocols when community transmission rates increase (e.g., patient testing)
- Updating Policies & Procedures as frequently as needed
Patient Engagement is Important to Infection Control...
Signage Promotes Success

Please read the following and state whether any of these apply to you:

- I have not been ill in the last 72 hours
- I have not run a fever in the last 24 hours
- To my knowledge I have not been exposed to covid in the last 14 days
- In the last 30 days I have not been out of the country
- In the last 30 days I have not tested positive for covid
- No one in my household has been ill or tested positive for covid in the last 14 days.

If you have any of the following that are true statements, for your safety as well as the other patients and employee's, please exit the building.
Panel Discussion
How can infection cause eye damage?
How long can an autoclaved box remain sterile?
How to avoid needle stick injury?
How to prevent infection within 48 hours post surgery?
In an outreach setting where there is no operating theater how do I ensure proper infection prevention?
Is class B autoclave a must for use?
Is it a good practice to wash surgical gloves with lactate ringers solution to get rid of excess powder before start?
Is it safe to re-sterilize Phaco tubing?
Is just prepping with provide iodine enough for infection prevention or must it be left for many seconds?
Is there an infection prevention protocol or policy on recommissioning of Operating Theatres after a major renovation or prolonged closure?
What can you suggest for sterilizing instruments between cases in long cataract lists when short cycle autoclave not available??
What is the best/most practical method to disinfect the goniolens at outpatient department for massive daily use?
What to do in povidone iodine allergic patients?
Thank You

Do you have any questions?

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https://cybersight.org/consultation/

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